



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,869	04/20/2007	Thomas Kothe	COZ-0535	7938
23575	7590	12/09/2009	EXAMINER	
CURATOLO SIDOTI CO., LPA 24500 CENTER RIDGE ROAD, SUITE 280 CLEVELAND, OH 44145			SCOTT, ANGELA C	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			12/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Applicant's response of August 3, 2009 has been fully considered. Claims 1-20 are pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 6-12, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mills et al. (US 2002/0161071) in view of Perry et al. (US 6,514,334).

Regarding claims 1-4, 11-15, Mills et al. teaches a settable composition comprising (i) a cementitious composition (water absorbing composition) comprising from 25 to 95% of calcium aluminate (part of the cementitious composition forming ettringite during hydration, ¶19), from 0 to 10% of lime, and from 0 to 50% of calcium sulfate (part of the cementitious composition forming ettringite during hydration, ¶19), where the proportions of the components are such that the composition on hydration is capable of absorbing at least its own weight of water, and (ii) an aqueous emulsion of an organic polymer, the amount of (ii) in relation to (i) being such as to provide a weight ratio of polymer solids to combined weight of the ingredients of (i) of from 0.5:1 to 10:1, preferably 1:1 to 2.5:1, or (iii) an organic polymer in the form of a powder dispersible in water and where the amount of organic polymer is such as to give a weight ratio of polymer to combined weight of the ingredients of (i) of from 0.5:1 to 10:1, preferably 1:1 to 2.5:1 (¶¶ 7-14).

Mills et al. does not teach that the composition contains at least 13 weight % lime, at least 25 weight % lime, or at least 62 weight % lime. However, Perry et al. teaches a cementitious mixture containing a composition A and a composition B, where composition B is 80 to 99 weight percent calcium oxide (lime) (Col. 1, line 45 to Col. 2, line 20). Composition B is included in the mixture in an amount from 20 to 80 weight % (Col. 2, lines 62-63), more preferably from 30 to 70 weight percent (Col. 3, lines 56-58). At these amounts, and assuming that composition B is made of 90% lime, lime would be in the composition in an amount greater than 62 weight % (i.e., 90% lime at 70% composition B is 63% lime in the composition). Mills

Art Unit: 1796

et al. and Perry et al. are analogous art because they are both from the same field of endeavor, namely that of cementitious compositions. At the time of the invention, a person of ordinary skill in the art would have been motivated to include the above amounts of lime, as taught by Perry et al., in the composition, as taught by Mills et al., and would have been motivated to do so because the higher amount of composition B, which is mainly calcium oxide, results in a higher gain in strength in the composition (Col. 6, lines 29-31).

Regarding claims 5 and 16, Mills et al. does not teach that the water absorbing composition contains a stoichiometric surplus of lime, i.e., an amount of lime that is not included in the ettringite forming reaction. However, Perry et al. teaches adding up to 30 weight percent hydrated lime to the cementitious mixture comprising compositions A and B (Col. 6, lines 39-45). Adding this lime after the composition has been formed would preclude it from participating in the reaction. At the time of the invention, a person of ordinary skill in the art would have found it obvious to add additional hydrated lime, as taught by Perry et al., to a cementitious composition, as taught by Mills et al., and would have been motivated to do so because an increase in lime improves early strength which can be advantageous by allowing for normal concrete production during cold weather (Col. 6, lines 47-51).

Regarding claims 6, 8 and 17, Mills et al. additionally teaches a method of applying a coating to a surface comprising forming a mixture of a cementitious composition (i) and an aqueous emulsion (ii), and spraying (putting) the mixture onto the surface to form a coating at least 2 mm in thickness (¶37 and claim 5).

Regarding claims 7 and 18-19, Mills et al. additionally teaches a method of applying a coating to a surface comprising forming a mixture of a cementitious composition (i) and a dispersible organic polymer (iii), combining the mixture with an amount of water, and spraying the mixture onto the surface to form a coating at least 2 mm in thickness (¶37 and claim 6).

Regarding claims 9-10, Mills et al. additionally teaches using the coating of claim 8 as a rock support means (¶44) or to reduce or prevent weathering (waterproofing) (¶46).

Regarding claim 20, Mills et al. additionally teaches using the coating of claim 19 as a rock support means (¶44) or to reduce or prevent weathering (waterproofing) (¶46).

Response to Arguments

Applicant's arguments filed August 3, 2009 have been fully considered but they are not persuasive.

Applicants argue that calcium sulfate is needed to form Ettringite and that Perry et al., which is the secondary reference, does not contain calcium sulfate. Moreover, applicants argue that if the composition of Perry et al., as a whole, were to be combined with Mills et al., the resulting composition would not contain calcium sulfate. This argument is unpersuasive. First, Mills et al. teaches the inclusion of calcium sulfate. Therefore, if the compositions of Perry et al. and Mills et al. were to be combined, the composition would include calcium sulfate. Secondly, while the reference of Perry et al. must be considered as a whole, the whole of its composition does not need to be bodily incorporated into the composition of Mills et al. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, as stated above, Perry et al. is used for its teaching of the inclusion of a large percentage of lime into the composition in order to attain a higher gain in strength in the composition.

Applicants also argue that Mills et al. does not disclose how Ettringite enables high early strength and Perry et al. provides no motivation to reduce the time needed for Ettringite formation. The references do not need to teach or provide motivation for these properties. The obviousness rejection is based on Mills et al. and Perry et al. being from an analogous art and that there is a reason articulated in Perry et al. for increasing the amount of lime in the composition. The fact that these references may not state the problem or the solution in the same terms as applicant is of no consequence.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1796

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela C. Scott whose telephone number is (571) 270-3303. The examiner can normally be reached on Monday through Friday, 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/A. C. S./
Examiner, Art Unit 1796
November 30, 2009